

ABSTRACT

A handheld diagnostic device having a test head and a handle is equipped with an
5 open test channel having sensors and liquid reagent dispensing opening for the diagnostic
testing of body fluids. The test channel can draw in fluid sample by capillary force and
be closed by a channel cover for mixing the fluid sample with liquid reagent for electro-
chemical reactions for providing measurement signals for diagnostic analysis by a micro-
processor included in the handle. A vibration means is added for stimulating the pro-
10 duction of the body fluid sample and for assisting mixing of the sample solution. A re-
newable biosensor having a reusable electrode system and a dispensing means for pro-
viding a new dose of liquid reagent is included in the test head for repeated uses of the
test channel and the biosensor. A dual-dispensers system having two reagent cartridges
and two dispensing lines is included for simultaneous or selective dispensing of reagents
15 for multiple diagnostic testing. The handheld device can be used for the self-diagnostic
testing of saliva, body fluid, blood and vagina fluid for home healthcare and for moni-
toring predetermined components in a pourable fluid. For vagina fluid applications, a
handheld diagnostic device may include cream or foam dispenser for dispensing vagina
medication material, lubricant, or spermicide.

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